

WHAT IS CLAIMED IS:

1. A functional multilayer film obtained by fixing a plurality of fine metallic bodies to a matrix made of a dielectric substance,

wherein the matrix is obtained by laminating metal-arranged thin films, each metal-arranged thin film comprising a dielectric thin film having a predetermined thickness and the fine metallic bodies arranged on the dielectric thin film, and

wherein a plurality of recesses is regularly formed on the surface of the dielectric thin film, and the fine metallic bodies are arranged in the lower parts of the recesses.

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2. A functional multilayer film according to Claim 1, wherein the dielectric thin film and the fine metallic bodies are made of different materials in every metal-arranged thin film or in every region including a plurality of the metal-arranged thin films.

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3. A method for manufacturing a functional multilayer film comprising the steps of:

forming a dielectric thin film so as to have a plurality of recesses regularly arranged on the surface thereof,

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forming a metal-arranged thin film by forming a metallic thin film on the dielectric thin film, and performing a heat treatment to the metallic thin film so as for metal to flow

into the lower parts of the recesses of the dielectric thin film to form fine metallic bodies, and

forming a matrix by laminating a plurality of the metal-arranged thin films, each comprising the dielectric thin film
5 and the fine metallic bodies.